

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

REMARKS

In the Office Action, the Examiner noted that claims 1-17 are pending in the application and that claims 1-17 stand rejected. By this response, claims 1, 8, 10 and 16 are amended to more clearly define the invention of the Applicants and not in response to prior art. All other claims continue unamended by this response.

In view of the amendments presented above and the following discussion, the Applicant respectfully submits that none of the claims are anticipated under the provisions of 35 U.S.C. § 102. Thus the Applicant believes that all of these claims and the application are now in allowable form.

Rejections

A. 35 U.S.C. § 102

The Examiner rejected claims 1-17 under 35 U.S.C. § 102(e) as being anticipated by Shintani et al. (U.S. Patent No. 6,137,546, hereinafter "Shintani"). The rejection is respectfully traversed.

In this First Office Action, the Examiner alleges that Shintani discloses a method and system for creating a subset of channels with programming from a plurality of channels including all of the aspects of the Applicant's invention. The Applicant respectfully disagrees.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983)). (emphasis added). The Applicant respectfully submits that Shintani fails to teach each and every element of at least the Applicant's claim 1, which specifically recites:

"A method of creating a subset of channels with programming from a plurality of channels, comprising the steps of:
 receiving a plurality of channels, wherein the plurality of channels comprises at least one channel with programming;
encoding at least a portion of a predetermined number of channels from the plurality of channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels;
processing at least one of the corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels to

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

determine which of the predetermined number of channels contain programming to provide the subset of channels with programming; and storing the subset of channels into memory." (emphasis added).

The Applicant's claim 1 finds support throughout the specification. More specifically, Claim 1 is directed to a method of creating a subset of channels with programming from a plurality of channels including encoding at least a portion of a predetermined number of received channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels and processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming to provide the subset of channels with programming. More specifically, in support of claim 1, the Applicants in the Specification specifically recite:

"Specifically, a plurality of channels can be received in which one or more of these channels contain actual programming. A portion of a predetermined number of these channels can be encoded into intra and/or non-intra pictures, and these intra and non-intra pictures can then be processed to determine which of these predetermined number of channels contain programming for purposes of providing a program channel subset. This program channel subset can then be stored into memory thereby permitting a display device to display only the channels that contain programming." (See Specification, page 8, lines 10-17).

And

"In one arrangement, the encoding step can be performed by encoding a portion of each of the predetermined number of channels into MPEG formatted pictures such as intra (I) pictures or non-intra (non-I) pictures. Non-I pictures can include predictive (P) or bi-directional predictive (B) pictures. The encoded signals can contain any number of I or non-I pictures. In fact, the encoded signal can be limited to merely a single I picture, a single I picture and a single non-I picture or a single non-I picture such as a P picture that contains a number of I macroblocks. As will be explained below, however, the accuracy of the invention may improve as the number of encoded pictures increases for each of the encoded signals.

At step 214, each of the encoded signals can be processed to determine which of the predetermined number of channels contains programming. Once the channels that contain programming are distinguished from those that do not, a subset of channels with programming can be created. In one arrangement, the pictures that were created from the encoding step can be processed to determine whether the particular channel from which they were encoded contains programming.

As an example, if a particular encoded signal contains one or more non-I pictures, then the number of bits in one or more of these non-I

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

pictures can be counted. If the number of bits is lower than a typical non-I picture, for example, 20% lower than typical non-I picture, then there is a good possibility that the encoded signal is a DBS signal that carries no programming. This determination can be made because the non-I pictures from these types of signals contain very little encoded information, as the signal display almost never varies. It should be noted, however, that the invention is not limited to the particular example discussed above, as other thresholds can be used to determine whether a non-I picture is from a non-programming channel." (See Specification, page 9, line 6 through page 10, line 8).

As evident from at least the portions of the Applicant's disclosure presented above, in the invention of the Applicant, encoded intra and/or non-intra pictures are processed to determine which of a predetermined number of channels contain programming to provide a subset of channels with programming.

To further support and describe various embodiments of the processing of the intra and/or non-intra pictures of the Applicant's invention, the Applicant in the Specification specifically further recites:

"In another arrangement, the motion vectors in one or more non-intra pictures in the encoded signals can be analyzed to determine whether a particular signal contains a still video pattern. If all the motion vectors have a value of zero or substantially close to zero, then there is a good chance that the non-I pictures from which they are measured are from a signal carrying a still video pattern. To improve the accuracy of the invention, a greater number of these non-I pictures can be checked in accordance with the examples listed above. It should be noted, however, that the invention is not limited to the above examples, as any other suitable means of processing non-I pictures can be used to determine which of the plurality of channels contains programming.

In another arrangement, one or more I pictures in each encoded signal can be processed for purposes of eliminating the signals containing still video patterns. Specifically, the discrete cosine transform (DCT) coefficients in each I picture can be examined; notably, if the DCT alternating current (ac) coefficients are zero or substantially zero in a large number of the macroblocks in a particular I picture, then there is a good possibility that that I picture is from an encoded signal carrying a still video pattern. In another arrangement, information relating to the DCT-ac coefficient values for each macroblock contained in a sample picture from one or more of the non-programming channels can be stored in memory. Subsequently, the DCT-ac coefficients of all or a portion of the macroblocks contained in an I picture being analyzed can then be compared to the sample picture DCT-ac information stored in memory. If there is a correlation between the DCT-ac coefficients of the macroblocks contained in the I picture being analyzed and the DCT-ac coefficients of the

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

PATENT

PU010152

macroblocks contained in the sample picture from the particular channel being examined, then there is a good chance that the I picture is from a non-programming channel. In another arrangement, a sample picture can be retrieved from one or more of the non-programming channels and other relevant information from these sample pictures can be stored in memory. As an example, the number of bits in each of these sample pictures can be counted and stored in memory. Subsequently, the number of bits from the I pictures being analyzed can be counted and then compared to the number of bits contained in a corresponding sample picture (a corresponding sample picture is a sample picture that has been retrieved from the particular channel from which the I pictures being analyzed originate). If the number of bits in a specific I picture are within a predetermined threshold - for example, within twenty percent of the number of bits contained in the sample picture - then there is a good chance that the I picture is from a channel containing no programming. It should be noted that the invention is not limited to this particular example, as any other suitable threshold can be used to help determine whether an I picture is from a non-programming channel. (See Specification, page 10, line 9 through page 11, line 23).

Shintani teaches an autoprogrammer for a television receiver capable of receiving conventional analog (NTSC) channels and DTV (8VSB) channels. In Shintani, first, conventional analog channels are identified and then skip channel data for each of the channels is stored in a memory. Subsequent executions of the autoprogramm function map DTV channels. Skip channel data is entered in the memory for these additional DTV channels. Mapping of DTV channels occurs without deletion or overwrite of previous channel mapping information. In contrast to the invention of the Applicant, at least as claimed by the Applicant's independent claim 1, Shintani fails to teach, suggest or anticipate at least "encoding at least a portion of a predetermined number of channels from the plurality of channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels" and "processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming to provide the subset of channels with programming".

That is, Shintani absolutely fails to teach, suggest or anticipate encoding at least a portion of received channels to provide encoded intra and/or non-intra pictures for each of the encoded channels. In contrast to the invention of the Applicant, Shintani merely teaches receiving NTSC and DTV signals and not

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

"encoding at least a portion of a predetermined number of channels from the plurality of channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels" as taught in the Applicant's Specification and claimed by at least the Applicant's claim 1.

Even further, Shintani absolutely fails to teach, suggest or anticipate processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming. In the Office Action, the Examiner incorrectly cites and misinterprets Shintani in that the Examiner alleges that Shintani teaches "detecting a valid segment of video and/or a field sync signal". In contrast to the interpretation of the Examiner, Shintani specifically recites:

"There are several ways demodulator 16 can determine if a particular channel is a valid 8VSB channel. One way is to determine the presence of the 8VSB pilot signal. Another way is to obtain a valid segment and/or field sync signal." (See Shintani, col. 5, lines 7-10).

As clearly determinable from at least the portion of Shintani presented above, Shintani absolutely does not teach or suggest "detecting a valid segment of video and/or a field sync signal" as alleged by the Examiner. Instead, Shintani teaches that to determine if a particular channel is a valid 8VSB channel, is to determine the presence of the 8VSB pilot signal or to obtain a valid segment sync signal and/or field sync signal. As known to those skilled in the art, a field sync signal or segment sync signal is a signal that looks like a positive-going vertical sync pulse, with a period of, for example, 16.6ms (field sync) or 33.2ms (segment sync). Shintani absolutely fails to teach, suggest or anticipate "processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming to provide the subset of channels with programming" as taught in the Applicant's Specification and claimed by at least the Applicant's claim 1. In addition, Shintani absolutely fails to teach or suggest "detecting a valid segment of video" as alleged by the Examiner. Shintani instead merely teaches obtain a valid segment sync signal and/or field sync signal.

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

As such and for at least the reasons described above and specifically because Shintani fails to teach, suggest or anticipate at least "encoding at least a portion of a predetermined number of channels from the plurality of channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels" and "processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming to provide the subset of channels with programming" as taught in the Applicant's Specification and claimed by at least the Applicant's claim 1, the Applicant respectfully submits that Shintani fails to teach, suggest or disclose at least each and every element of the Applicant's claimed invention, arranged as in at least the Applicant's claim 1 as required for anticipation. Therefore, the Applicant respectfully submits that the teachings and disclosure of Shintani do not anticipate the Applicant's invention, at least with respect to independent claim 1.

Therefore, the Applicant submits that for at least the reasons recited above, independent claim 1 is not anticipated by the teachings of Shintani and, as such, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

Likewise, independent claims 8, 10 and 16 recite similar relevant features as recited in the Applicant's independent claim 1. As described above, there is absolutely no teaching, suggestion or disclosure in Shintani for at least "encoding at least a portion of a predetermined number of channels from the plurality of channels to provide corresponding encoded intra and/or non-intra pictures for each of the predetermined number of channels" and "processing each of the corresponding encoded intra and/or non-intra pictures to determine which of the predetermined number of channels contain programming to provide the subset of channels with programming" as claimed by the Applicant's independent claims 1, 8, 10 and 16. As such, the Applicant respectfully submits that for at least the reasons recited above independent claims 8, 10 and 16 are also not anticipated by the teachings of Shintani and also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

Furthermore, dependent claims 2-7, 9, 11-15 and 17 depend directly from independent claims 1, 8, and 10 and recite additional features therefor. As such

CUSTOMER NO.: 24498

Serial No. 09/916,903

Reply to Office Action dated: 08/25/05

Response dated: 11/23/05

**PATENT
PU010152**

and for at least the reasons set forth herein, the Applicant submits that dependent claims 2-7, 9, 11-15 and 17 are also not anticipated by the teachings of Shintani. Therefore the Applicant submits that dependent claims 2-7, 9, 11-15 and 17 also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

The Applicant reserves the right to establish the patentability of each of the claims individually in subsequent prosecution.

Conclusion


The Applicant respectfully submits that none of the claims, presently in the application, are anticipated under the provisions of 35 U.S.C. § 102.

Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion, it is respectfully requested that the Examiner telephone the undersigned.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account No. 07-0832.

Respectfully submitted,
Yongmei Cang

By: 
Jorge Tony Villabon, Attorney
Reg. No. 52,322
(609) 734-6445

Patent Operations
Thomson Licensing Inc.
P.O. Box 5312
Princeton, New Jersey 08543-5312
November 23, 2005